

CLASSIFICATION **CONFIDENTIAL** **CONFIDENTIAL**  
 CENTRAL INTELLIGENCE AGENCY  
 INFORMATION FROM  
 FOREIGN DOCUMENTS OR RADIO BROADCASTS

50X1-HUM

COUNTRY USSR

REPORT

SUBJECT Scientific - Metals

CD NO.

HOW PUBLISHED Book

DATE OF INFORMATION 1950

WHERE PUBLISHED Moscow-Leningrad

DATE DIST. 22 Aug 1950

DATE PUBLISHED 1949

NO. OF PAGES 2

LANGUAGE Russian

SUPPLEMENT TO REPORT NO.

**THIS DOCUMENT CONTAINS INFORMATION AFFECTING THE NATIONAL DEFENSE OF THE UNITED STATES WITHIN THE MEANING OF ESPIONAGE ACT 50 U. S. C. 31 AND 32, AS AMENDED. ITS TRANSMISSION OR THE REVELATION OF ITS CONTENTS IN ANY MANNER TO AN UNAUTHORIZED PERSON IS PROHIBITED BY LAW. REPRODUCTION OF THIS FORM IS PROHIBITED.**

THIS IS UNEVALUATED INFORMATION

SOURCE Kobal't, Academy of Science Publishers.

TABLE OF CONTENTS FOR "COBALT"

F. M. Perel'man, A. Ya. Zvorykin, N. V. Gudima  
 Inst of Gen and Inorg Chem imeni N. S. Kurnakov  
 Acad Sci USSR, Moscow

This 175-page book covers material related to the chemistry and metallurgy of cobalt along with the chemical elements which accompany cobalt in nature or industry. Such an arrangement increases the practical value of the data and facilitates the use of the book as a reference for conducting analyses, and for the processes of separation and purification of cobalt in production.

TABLE OF CONTENTS

	Page
Introduction	3
I. Discovery of Cobalt and Its Application	5
Hard Alloys	6
Heat-resisting Alloys	9
Magnetic Alloys	10
Acid-resisting Alloys	12
Cobalt Catalysts	12
Paints and Enamels	13
II. Raw Material Sources and World Production of Cobalt	15
World Deposits of Cobalt Ores	18
Cobalt Ores of the USSR	22
III. Basic Properties of Cobalt	24

CLASSIFICATION **CONFIDENTIAL** **CONFIDENTIAL**

STATE	<input checked="" type="checkbox"/> NAVY	<input checked="" type="checkbox"/> NSRB	DISTRIBUTION					
ARMY	<input checked="" type="checkbox"/> AIR	<input checked="" type="checkbox"/> FBI						

**CONFIDENTIAL**  
CONFIDENTIAL

50X1-HUM

	<u>Page</u>
IV. Intermetallic Compounds of Cobalt	34
Compounds of Cobalt with Heavy Metals of the Iron Group	34
Compounds of Cobalt with Light, Nonferrous and Noble Metals	42
Compounds of Cobalt and Metalloids	46
V. Oxides, Carbonates, and Sulfides of Cobalt	52
VI. Salts of Cobalt	60
VII. Solid Solutions and Double Salts of Cobalt	67
VIII. Complex Compounds of Cobalt	78
IX. Qualitative Determination of Cobalt	86
X. Quantitative Determination of Cobalt	95
Electrolytic Methods	95
Gravimetric Methods	97
Volumetric Methods	101
Colorimetric Methods	103
Microquantitative Determination of Cobalt	113
Potentiometric Methods	116
Photoelectric-colorimetric Methods	119
XI. Processing of Cobalt Ores	123
Concentration Processes	126
Metallurgical Processing of Cobalt Ores and Concentrates	129
Processing of Arsenic Concentrates	133
Processing of Copper Ores and Concentrates	137
Processing of Nickel Ores and Concentrates	138
Processing of Asbolan Ores and Concentrates	140
Processing of Ores with Very Small Content of Cobalt	141
Processing of Cobalt-containing Solutions	145
Production of Metallic Cobalt	160
Bibliography	165

- E N D -

- 2 -

CONFIDENTIAL

**CONFIDENTIAL**